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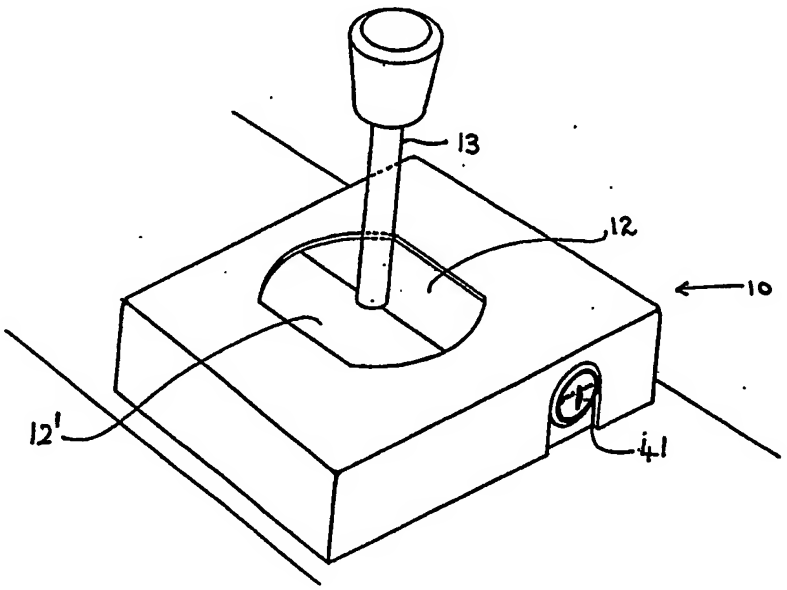

(57) Abstract

A security device for motor vehicles, such device, in use, being located around the lower region of the gear lever or stick (13) of a motor vehicle, said device comprising a hollow housing (11) having an aperture (17) in its normally upper surface which permits the gear lever or stick (13) to operate normally, and said housing (11) including means (12, 12') which, in its operative position prevents movement of the gear lever and in its inoperative position permits the gear lever to be used normally, transfer of the means (12, 12') from its operative position to its inoperative position, and vice-versa being effected by a locking mechanism (41, 51, 52).

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VEHICLE SECURITY DEVICE

The present invention relates to a security device for motor vehicles.

Several security devices are available on the market in an attempt to prevent motor vehicles being stolen. Such known devices range from highly sophisticated, but costly, electronic devices to various mechanical devices. However, such mechanical devices suffer from the disadvantage that, usually, they have to be fixed in place when a vehicle owner intends to leave the vehicle and then have to be removed before the owner can use the vehicle again.

Security devices are also known which utilise means which prevent or restrict movement of the gear lever or stick of a motor vehicle, when the vehicle is not being used by the owner or legal user. However, such devices are either extremely complex in construction or a portion of the device has to be removed or inserted manually.

It is an object of the present invention to provide a security device for motor vehicles which immobilises the gear lever, is simple to contruct, economical in nature and which can be moved from an operative to an inoperative position without having to remove the whole or a portion of the device.

By immobilising the gear lever, a thief cannot cause the vehicle to move normally since it is not possible, when the device of the present invention is operative, to operate the gear lever to engage the gears in a normal manner.

According to the present invention there is provided a security device for motor vehicles, such device, in use, being located around the lower region of the gear lever or

stick of a motor vehicle, said device comprising a hollow housing having an aperture in its normally upper surface which permits the gear lever or stick to operate normally, said housing including means which in its operative position prevents movement of the gear, and in its inoperative position permits the gear lever to be used normally and said housing including a locking mechanism, characterised in that the means for preventing movement of the gear lever comprises two flat plate members which, in the operative position of the device, are each caused to move towards one another and be located around the gear lever and prevent movement thereof, such members each being caused to be moved away from one another to achieve their inoperative position and allow the gear lever to move normally, and in that movement of said plate members either towards or away from one another is effected by said locking mechanism.

In a preferred embodiment, each member is in the form of a half disc and movement thereof towards one another may be effected by any suitable means such as rollers, tracks or guides.

Movement of said members towards one another is effected by a locking mechanism preferably having appropriate levers or cranks, etc., whereby, when the lock is closed, the two members are caused to move towards one another. In a preferred embodiment of the invention, the locking mechanism operates on a rack and pinion principle.

It is also possible to utilize a keypad arrangement or any suitable electromechanical device.

It will thus be seen that, utilising the device in accordance with the present invention, the aperture provided in the upper surface of the housing, which enables the gear

lever or stick to be operated in a normal manner, may be closed by operating two members to move towards one another.

Preferably, the members which cause the aperture to be closed are located just beneath the upper surface of the housing.

In use, the device of the invention may be slipped over the top of the gear lever, or around the gear lever, and located in position, about the lower region of the gear lever. Such location can utilise any form of securing means which will firmly secure the device to the floor or tunnel of the vehicle. If desired, the housing can be secured in position by means of a plate being located underneath the floor of the vehicle, said plate being bolted to the housing of the security device of the present invention. On the other hand, the housing of the security device can be secured to the tunnel of the vehicle by appropriate welding or other securing techniques. Moreover, it is envisaged that the security device of the present invention could be incorporated in a new vehicle and same would then form a unitary structure with, say, the tunnel of the vehicle.

The device of the invention is preferably constructed whereby the whole of the locking arrangement is located within the hollow housing, and the housing is secured to the vehicle. In such manner, a thief cannot see how the device operates, nor can the thief break into the device.

In a further embodiment of the invention, an alarm system, which is connected to various integers of the vehicle, is included within the housing. By use of a suitably located microswitch the alarm system can be rendered operational when the two plate members are moved towards one another.

The present invention will be further illustrated, by way of example, with reference to the accompanying drawings, in which:-

Fig. 1 is a section through a device in accordance with the present invention;

Fig. 2 is a plan view of the device in accordance with the invention in its operative condition;

Fig. 3 is a perspective view of a security device in accordance with the present invention, wherein the means for preventing movement of the gear lever or stick are shown in a separated condition;

Fig. 4 is a perspective view of the device in its operative position, showing the location of the lock; and

Fig. 5 is a perspective view of the device of Fig. 4 in its inoperative position and illustrating the rack and pinion arrangement of the locking mechanism.

As illustrated, a security device 10 in accordance with the present invention comprises a hollow housing 11 and means, in the form of two half discs, 12 and 12' which, in their operative position, prevent movement of the gear lever 13 of a motor vehicle.

As illustrated in Fig. 1, the housing 11 may be secured to the floor or tunnel of a vehicle 14 by means of a plate 15 and associated bolts 16, 16'.

As illustrated in Fig. 2, the two members 12 and 12' have been moved into their operative position around the gear lever 13. In such situation, the aperture 17 normally

provided in the upper surface 18 of the housing 11 is occupied by the two members 13 which have been moved towards one another. In such position, it is not possible to move the gear lever 13 out of neutral.

As illustrated in Fig. 3, the members 12 and 12' are shown moving apart from one another and the aperture 17 is again unhindered. In Fig. 3, the gear lever 13 has been omitted for clarity.

Fig. 4 illustrates the device 10 in its operative position with the two members 12 and 12' being located so as to prevent movement of gear lever 13. The device is locked in the position shown by lock member 41.

In the inoperative position of the device illustrated in Fig. 5, the locking mechanism can clearly be seen and comprises the lock member 41, a pinion barrel 51 and a rack member 52. By operation of the lock member 41 in one rotary direction, the rack and pinion arrangement causes the two members 12 and 12' to move towards one another. Operation of the lock member 41 in the opposite rotary direction, causes the rack and pinion arrangement to move the two members 12 and 12' away from one another.

Thus, operation of the lock member 41 causes the device to operate automatically as desired.

It can thus be seen that the device in accordance with the present invention enables an operator to prevent movement of the gear lever. By utilising such device, any thief would be prevented from operating the vehicle in a normal manner.

The housing 11 and the members 12 and 12' as well as the plate 15 would normally be made of metal or other suitable

material of equivalent strength, e.g. strong plastics material. The housing may be of any desired shape, e.g. rectangular or circular, and thickness. Furthermore, the members 12, 12' can be of any desired shape, viz. of semi-circular or square form, and should be of such a size as to be locatable within the housing 11. In view of the fact that the device of the present invention should occupy as small a space as possible, it is preferred that, in the inoperative position of the members 12 and 12', same do not extend substantially beyond the ends of the housing 11.

It is also envisaged that the device of the present invention could be used in vehicles having an automatic transmission system.

It can thus be seen that the device of the present invention provides an economic and effective means for immobilising a goods or passenger vehicle.

CLAIMS

1. A security device for motor vehicles, such device, in use, being located around the lower region of the gear lever or stick of a motor vehicle, said device comprising a hollow housing having an aperture in its normally upper surface which permits the gear lever or stick to operate normally, said housing including means which in its operative position prevents movement of the gear, and in its inoperative position permits the gear lever to be used normally and said housing including a locking mechanism, characterised in that the means for preventing movement of the gear lever comprises two flat plate members which, in the operative position of the device, are each caused to move towards one another and be located around the gear lever and prevent movement thereof, such members each being caused to be moved away from one another to achieve their inoperative position and allow the gear lever to move normally, and in that movement of said plate members either towards or away from one another is effected by said locking mechanism.

2. A security device as claimed in claim 1, characterised in that each member is in the form of a half disc.

3. A security device as claimed in claim 1 or 2, characterised in that the members are caused to move either towards or away from one another by means of rollers, tracks or guides.

4. A security device as claimed in claim 1, characterised in that the locking mechanism operates on a rack and pinion principle.

5. A security device as claimed in claims 2, 3 or 4, characterised in that the members which cause the aperture to

be closed are located just beneath the upper surface of the housing.

6. A security device as claimed in any preceding claim, characterised in that securing means are provided to firmly secure the device to the floor or tunnel of a vehicle.

7. A security device as claimed in claim 6, characterised in that the housing is secured in position by means of a plate being located underneath the floor of the vehicle, said plate being bolted to the housing.

8. A security device as claimed in any preceding claim, characterised in that an alarm system is also included in said housing.

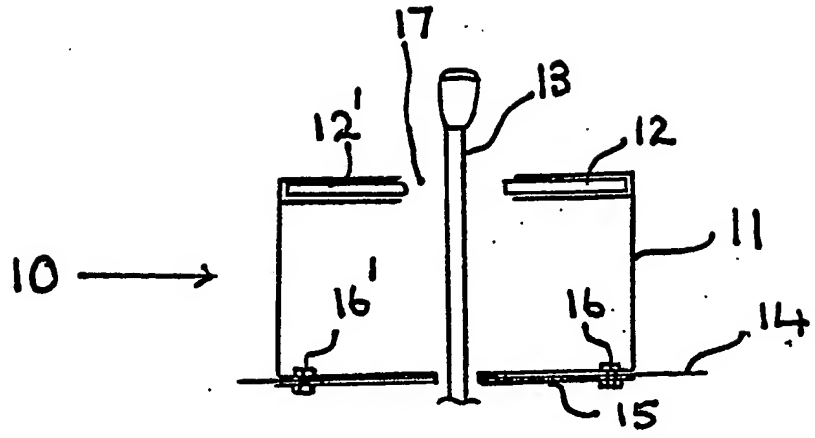

FIG. 1

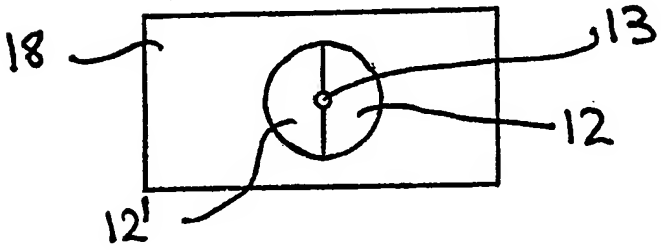

FIG. 2

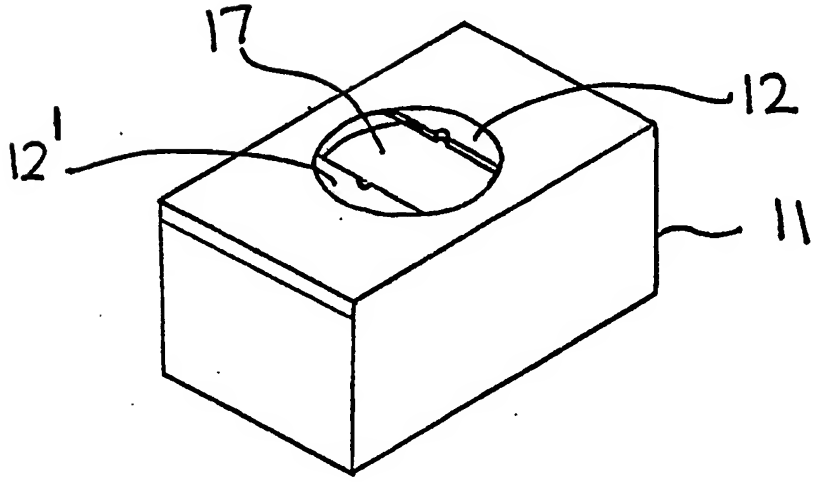

FIG. 3

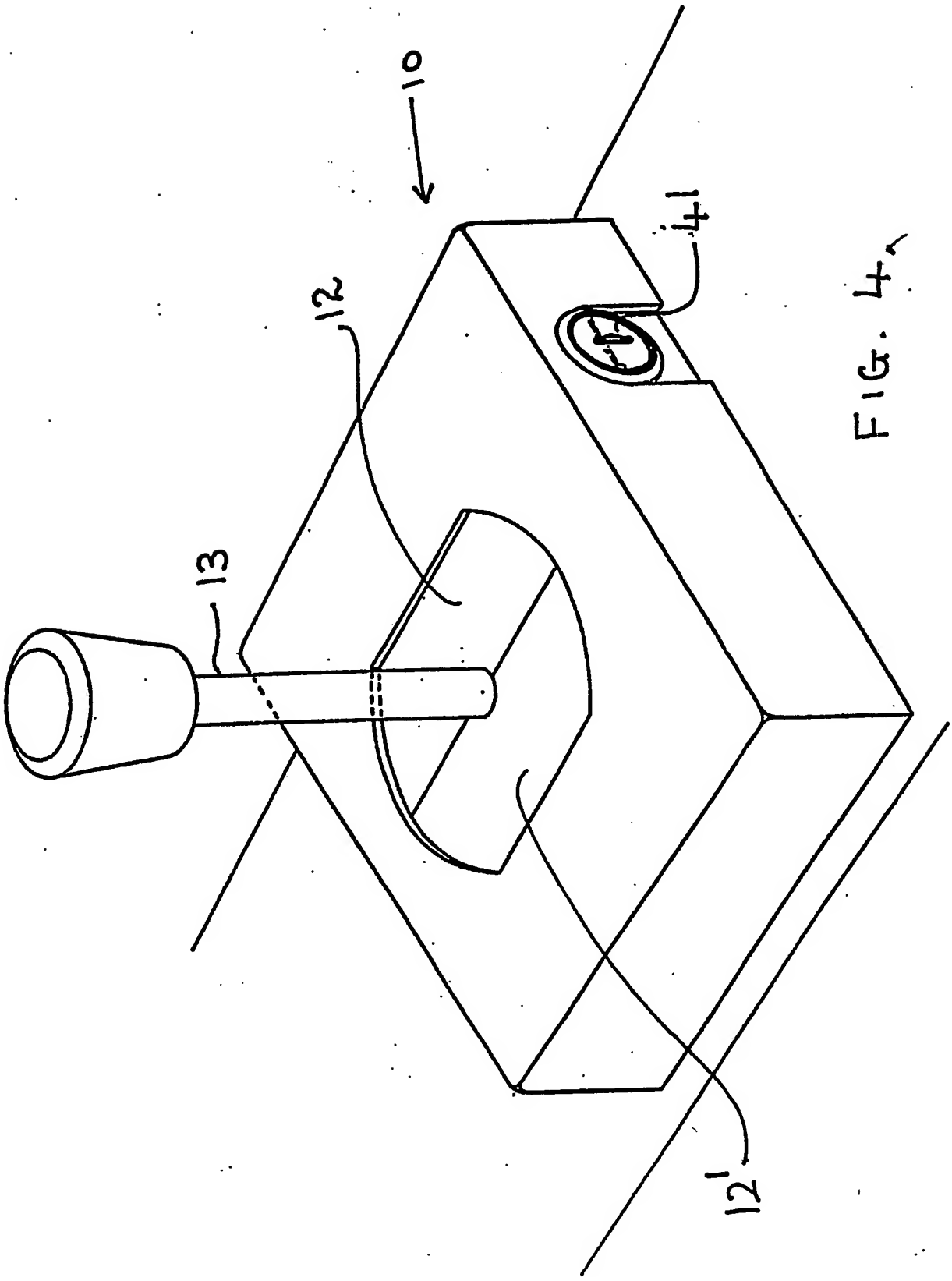

FIG. 4

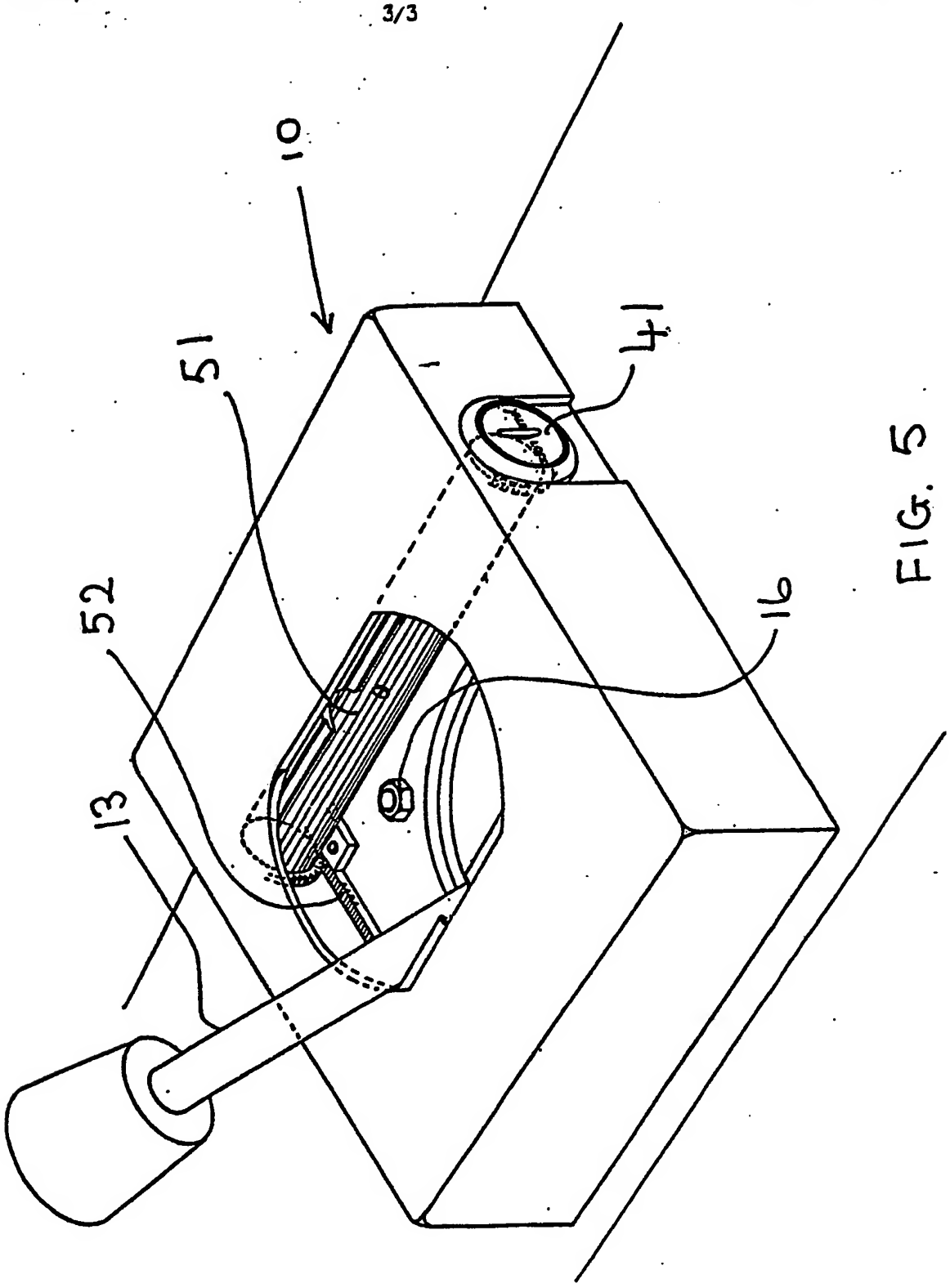

FIG. 5

INTERNATIONAL SEARCH REPORT

International Application No PCT/GB 86/00746

I. CLASSIFICATION OF SUBJECT MATTER (if several classification symbols apply, indicate all) [6]

According to International Patent Classification (IPC) or to both National Classification and IPC

IPC[4]: B 60 R 25/06

II. FIELDS SEARCHED

Minimum Documentation Searched [7]

Classification System	Classification Symbols
IPC[4]	B 60 R

Documentation Searched other than Minimum Documentation to the Extent that such Documents are included in the Fields Searched [8]

III. DOCUMENTS CONSIDERED TO BE RELEVANT [9]

Category [10]	Citation of Document, [11] with indication, where appropriate, of the relevant passages [12]	Relevant to Claim No. [13]
X	US, A, 1443262 (HINRICHS) 23 January 1923 see the whole document	1
Y	--	3,5,6
Y	FR, A, 980654 (LAMOTTE) 16 May 1951 see the whole document	3,5,6
Y	-- US, A, 1664042 (Mc GINLEY) 27 March 1928 see figures; page 1, page 2, lines 1-13, 84-95; page 3, lines 4-15	1,3,4
Y	-- US, A, 1730060 (COOPER) 1 October 1929 see the whole document	1,3,4
A	-- GB, A, 2152454 (WILSON) 7 August 1985 see the whole document	1,3,5,6,7
E	-- GB, A, 2175861 (GILFOYLE) 10 December 1986 see the whole document	1-3,5-7
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IV. CERTIFICATION

Date of the Actual Completion of the International Search	Date of Mailing of this International Search Report
27th July 1987	20 AUG 1987
International Searching Authority	**Signature of Authorized Officer**
EUROPEAN PATENT OFFICE	M. VAN MOL

ANNEX TO THE INTERNATIONAL SEARCH REPORT ON

INTERNATIONAL APPLICATION NO. PCT/GB 86/00746 (SA 15462)

This Annex lists the patent family members relating to the patent documents cited in the above-mentioned international search report. The members are as contained in the European Patent Office EDP file on 06/08/87

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Patent document cited in search report	Publication date	Patent family member(s)	Publication date
US-A- 1443262		None	
FR-A- 980654		None	
US-A- 1664042		None	
US-A- 1730060		None	
GB-A- 2152454	07/08/85	None	
GB-A- 2175861	10/12/86	None	